

## SABIC® HDPE M200056

### High density polyethylene for Injection moulding

#### Description.

SABIC® HDPE M200056 is a high density polyethylene copolymer injection moulding grade with a narrow molecular weight distribution. It has been designed for easy mold fill-out and low warpage with a good balance of toughness and stiffness characteristics.

#### Typical applications.

SABIC® HDPE M200056 is recommended for injection moulding of food containers, housewares, toys, base cups, caps and closures.

#### Processing conditions.

Typical moulding conditions for SABIC® HDPE M200056 are:

Melt temperature: 180 - 250 °C (356 - 480 °F)

Mould temperature: 15 - 60 °C (60 - 140 °F)

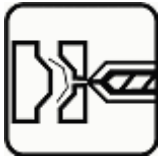
#### Typical data.

Revision 20051216

Properties	Units SI	Values	Test methods
<b>Polymer properties</b>			
<b>Melt flow rate (MFR)</b> at 190 °C and 2.16 kg	g/10 min	<b>20.0</b>	ASTM D 1238
<b>Density</b> <sup>1)</sup>	kg/m <sup>3</sup>	<b>956</b>	ASTM D 1505
<b>Mechanical properties</b> <sup>1)</sup>			
<b>Tensile test</b>			ASTM D 638
stress at yield	MPa	<b>29</b>	
stress at break	MPa	<b>25</b>	
strain at break	%	<b>350</b>	
secant modulus at 1% elongation	MPa	<b>1300</b>	
<b>Izod impact notched at 23 °C</b>	J/m	<b>30</b>	ASTM D 256
<b>Hardness Shore D</b>	-	<b>65</b>	ASTM D 2240
<b>ESCR (100% Igepal), F50</b>	h	<b>1.2</b>	ASTM D 1693B
<b>Thermal properties</b> <sup>1)</sup>			
<b>Vicat softening temperature</b> at 10 N (VST/A)	°C	<b>128</b>	ASTM D 1525
<b>Brittleness temperature</b>	°C	<b>&lt; -75</b>	ASTM D 746

1) Test specimens are prepared from compression moulded sheet made according to ASTM D 1928 Procedure C.

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**General information.** The SABIC® HDPE product range for injection moulding is produced in a slurry- or gasphase process using a Ziegler/Natta catalyst. As a result, the primary characteristic of the SABIC® HDPE grades is a narrow molecular weight distribution enabling the production of articles with high flow-path to wall-thickness ratios without the risk of warpage. Additional characteristics are a high purity of the polymer, high stability during processing and a good natural colour. These properties are directly linked with the unique production process of these materials.

**Health, Safety and Food Contact regulations.** Detailed information is provided in the relevant Material Safety Datasheet and or Standard Food Declaration, available on the Internet ([www.SABIC-europe.com](http://www.SABIC-europe.com)). Additional specific information can be requested via your local Sales Office.

**Quality.** SABIC Europe is fully certified in accordance with the internationally accepted quality standard ISO 9001-2000. It is SABIC Europe's policy to supply materials that meet customers specifications and needs and to keep up its reputation as a pre-eminent, reliable supplier of e.g. polyethylenes.

**Storage and handling.** Polyethylenes resins (in pelletised or powder form) should be stored in such a way that it prevents exposure to direct sunlight and/or heat, as this may lead to quality deterioration. The storage location should also be dry, dust free and the ambient temperature should not exceed 50 °C. Not complying with these precautionary measures can lead to a degradation of the product which can result in colour changes, bad smell and inadequate product performance. It is also advisable to process polyethylene resins (in pelletised or powder form) within 6 months after delivery, this because also excessive aging of polyethylene can lead to a deterioration in quality.

**Environment and recycling.** The environmental aspects of any packaging material do not only imply waste issues but have to be considered in relation with the use of natural resources, the preservations of foodstuffs, etc. SABIC Europe considers polyethylene to be an environmentally efficient packaging material. Its low specific energy consumption and insignificant emissions to air and water designate polyethylene as the ecological alternative in comparison with the traditional packaging materials. Recycling of packaging materials is supported by SABIC Europe whenever ecological and social benefits are achieved and where a social infrastructure for selective collecting and sorting of packaging is fostered. Whenever 'thermal' recycling of packaging (i.e. incineration with energy recovery) is carried out, polyethylene -with its fairly simple molecular structure and low amount of additives- is considered to be a trouble-free fuel.